#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

### (19) World Intellectual Property Organization

International Bureau



## 1 (BEES BINDING IN BILLING HEID BEDIN EELEN EIN HEID IN EELIN EELIN EILEN EI

(43) International Publication Date 6 January 2005 (06.01.2005)

**PCT** 

# (10) International Publication Number WO 2005/000444 A 1

(51) International Patent Classification<sup>7</sup>: B01D 21/26, 17/02

(21) International Application Number:

PCT/GB2004/002773

(22) International Filing Date: 28 June 2004 (28.06.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 0315223.8

27 June 2003 (27.06.2003) GH

(71) Applicant (for all designated States except US): HYDRO INTERNATIONAL PLC [GB/GB]; Shearwater House, Clevedon Hall Estate, Victoria Road, Clevedon BS21 7RD (GB).

(72) Inventors; and

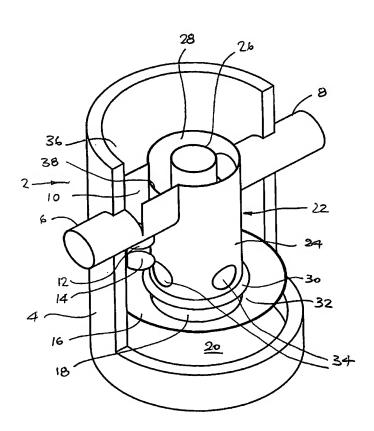
(75) Inventors/Applicants (for US only): ANDOH, Robert,

Yam, Gyamfi [GB/GB]; 68 Glamorgan Close, Mitcham, Surrey CR4 1XH (GB). FARAM, Michael, Guy [GB/GB]; 10 Tydeman Road, Portishead, Bristol BS20 7LS (GB).

- (74) Agent: CHEYNE, John, Robert, Alexander, Mackenzie; Haseltine Lake, Redcliff Quay, 120 Redcliff Street, Bristol BS1 6HU (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: HYDRODYNAMIC TREATMENT DEVICE



(57) Abstract: A hydrodynamic treatment device comprises a vessel (2) within which is disposed an inner partition (24). The inner partition (24) divides the interior of the vessel (2) into outer and inner regions (22, 28). Flow enters the vessel (2) through a tangentially oriented inlet (14) and establishes a complex circulating flow within the vessel (2). Settleable solids migrate to the bottom of the vessel (2) and are deposited in a sump (20) through a solids outlet opening (18). Flow enters the inner region (28) through apertures (34) in the inner partition (24), and is discharged through an outlet duct (8). The inner region (28) is closed at its lower end by a frusto-conical, downwardly diverging lower wall (30) which projects outwardly from a central cylindrical wall (26).

WO 2005/000444 A1



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.